

MAIDENHAIR FERN BIOGEOGRAPHY AND  
M. L. FERNALD'S HYPOTHESIS OF A  
GASPÉ REFUGIUM

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ABSTRACT

In his 1925 publication *The Persistence of Plants in Unglaci-ated Areas of Boreal America*, Fernald set forth his ideas about the biogeographical history of the plants of the Gaspé Peninsula. Noting the large number of taxa in that flora that, in his opinion, represented disjunct populations of western cordilleran species, Fernald suggested that these once-widespread species survived Pleistocene glaciation in the Gaspé on ice-free mountaintops called nunataks. Numbered among Fernald's western disjuncts was *Adiantum pedatum* L. var. *aleuticum* Rupr., a maidenhair fern he had discovered 20 years earlier on the serpentine tableland of Mt. Albert. Although subsequent geological and botanical evidence has cast doubts on Fernald's nunatak hypothesis, his association of the serpentine maidenhair with the flora of the western cordillera is probably correct. Results of recent cytological, morphometric, and electrophoretic studies of the *Adiantum pedatum* complex in North America indicate that var. *aleuticum* is more closely related to the maidenhairs of western North America than to the typical maidenhair of eastern woodlands. Probably the western component of the *Adiantum pedatum* complex extended its range eastward along a deglaci-ated corridor following retreat of the Wisconsin ice; isolated populations of var. *aleuticum* were left on serpentine following re-establishment of normal vegetation. Islands of serpentine substrate, not unglaci-ated terrain, provide refugia for this taxon in eastern North America.

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